

Exhibit D

In The Matter Of:
Ronnie Jones, et al. vs.
City of Boston, et al.

Leo J. Kadehjian
July 15, 2009

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1 racially biased?
2 **A. Not necessarily. Data on self-report**
3 **clearly shows that there appears to be some**
4 **race-related bias in self-report rates among**
5 **different populations. Urine testing, I would hold,**
6 **certainly has no evidence of racial bias.**
7 **Controlled dosing studies are really the ideal way**
8 **to do that, but the problem is that they're**
9 **difficult to conduct, very costly and difficult to**
10 **conduct on large populations.**
11 Q. Just to clarify, Dr. Kadehjian, when you
12 say, "Controlled dosing studies are really the ideal
13 way to do that," what do you mean?
14 **A. Ideally you would take a thousand people of**
15 **one race, a thousand people of another race. You**
16 **would dose them with drug, and you would see who**
17 **passes the test, who fails the test. And you would**
18 **ideally understand each individual's metabolic**
19 **capability, so that you weren't making the mistake**
20 **that rapid metabolizers are all passing the test and**
21 **slow metabolizers are all failing the test.**
22 **Ideally you would have all of that**
23 **information, and then you could make a convincing**
24 **argument that there is some race base for explaining**

1 **They're dosed with drugs. Their hair is collected**
2 **and tested. That's a summary of how these control**
3 **dosing studies are done.**
4 Q. What I'm wondering is if you can identify
5 specifically, by researcher or in some other way,
6 what these studies are.
7 **A. There is a study by Scheidweiler.**
8 Q. Any idea how that's spelled?
9 **A. S-c-h-e-i-d-w-e-i-l-e-r, et al. That was**
10 **performed at the National Institute on Drug Abuse.**
11 **There was a study by Roper-Miller, R-o-p-e-r-o,**
12 **hyphen, M-i-l-l-e-r. I believe there was a study**
13 **done by Joseph, spelled as it sounds, et al. One or**
14 **two more I can't recall off the top of my head.**
15 Q. But your understanding is that these
16 studies all show no evidence of a race bias in hair
17 testing?
18 **A. That's right.**
19 Q. When you were on the tour and you
20 communicated to somebody from Psychomedics your view
21 that hair color bias in hair testing was often
22 characterized as race bias, other than indicating
23 that they agreed with you, was there any response
24 from the persons to whom you were conveying this

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1 **these test results.**
2 Q. So if I understand you correctly, and
3 correct me if this is wrong, a controlled dosing
4 study would be the ideal way to establish a race
5 bias in hair testing if it existed?
6 **A. Yes. That would be one way, and I think**
7 **probably the best way. But as I indicated, very**
8 **difficult to do these studies in a way that had**
9 **sufficient power to truly identify that as the sole**
10 **factor for these discrepant results.**
11 Q. Would a controlled dosing study also be the
12 ideal way to establish that there was no race bias
13 in hair testing?
14 **A. Yes, I would say so.**
15 Q. And have such controlled dosing studies
16 been performed?
17 **A. Only a handful.**
18 Q. And what do they show?
19 **A. No evidence of any race or even hair color**
20 **bias.**
21 Q. What are these control dosage studies that
22 you've referred to?
23 **A. There are four or five in the literature.**
24 **Subjects are brought in to a clinical setting.**

1 information?
2 **MR. CLARKSON: Objection.**
3 **A. Nothing that I can recall.**
4 Q. Did anybody say anything like, "You should
5 put that in your report"?
6 **A. No.**
7 Q. In response to you communicating that
8 information, did anybody say anything about your
9 reports?
10 **A. No.**
11 Q. Did anybody say anything about the opinions
12 that you were formulating in connection with this
13 case?
14 **A. I might have said something about my view**
15 **of the literature and what I anticipated I would**
16 **include in my report.**
17 Q. So if I understand you correctly, during
18 the tour phase of that day, you recall that you may
19 have provided the folks who were accompanying you on
20 the tour with some indication of what you expected
21 to put in your report; is that right?
22 **MR. CLARKSON: Objection.**
23 **A. Yes. I think I made clear to my scientific**
24 **colleagues what my scientific opinion was about the**

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1 knowledge about what's in those samples?
2 **A. That's my understanding.**
3 Q. So when you said that Psychemedics takes
4 human hair that it knows has cocaine in it to
5 provide to Dr. Manno to be used potentially as a
6 double-blind sample, you meant that Psychemedics has
7 already tested that hair and determined that it has
8 the drug in it; is that correct?
9 **A. That's correct.**
10 Q. And so if that test result, the test result
11 that initially identified the presence of, say,
12 cocaine in a hair sample, were flawed, there would
13 be no way of catching that before it got fed back
14 into the system as part of the internal proficiency
15 program; is that right?
16 **A. All the proficiency program can do is get**
17 **the answer that the reference lab says you're**
18 **supposed to get. It's a reproducibility issue in**
19 **some way.**
20 Q. Respectfully, Dr. Kadehjian, that wasn't
21 quite my question.
22 **MR. HEINING:** Could you read back my
23 question, please.
24 (Next-to-last question read)

1 Q. What does it mean?
2 **A. It means specimens are obtained from a**
3 **third party and sent through the laboratory. That's**
4 **independent.**
5 Q. So using that definition, is Psychemedics'
6 internal proficiency program independent?
7 **A. Yes, in my view.**
8 Q. Because the samples are obtained from Dr.
9 Manno?
10 **A. Yes. A third party, separate from the**
11 **laboratory, is sending the specimens, unknown,**
12 **through the laboratory.**
13 Q. Does Psychemedics document the results of
14 its internal proficiency program in any way, to your
15 knowledge?
16 **A. I was told that it does.**
17 Q. Who told you that?
18 **A. I think Paul Matsui, Mike Schaffer, the**
19 **final reviewing scientist at the laboratory.**
20 Q. Who is that person?
21 **A. I don't remember her name.**
22 Q. Did you undertake to make any
23 independent -- sorry. Let me strike that.
24 Did you look at any of the documentation of

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1 **A. No, that's not correct.**
2 Q. Why not?
3 **A. Because if an error was made in the first**
4 **test, it's entirely possible that a different result**
5 **would show up in the second test when it comes**
6 **through as a blind. And then when there is the**
7 **third-party review, "Gee, I sent you a cocaine**
8 **positive. How come you reported it as negative this**
9 **time?"**
10 Q. But there's also a possibility that the
11 error, this hypothetical error, would be repeated;
12 isn't that correct?
13 **A. Of course.**
14 Q. And this possibility still gives you no
15 concern about the internal proficiency program at
16 Psychemedics?
17 **A. No.**
18 Q. Do you consider this to be an independent
19 proficiency program?
20 **MR. CLARKSON:** Objection.
21 Q. Let me strike that question. Does the
22 phrase "independent proficiency program" have any
23 meaning to you?
24 **A. Yes.**

1 the proficiency testing that was conducted at the
2 lab?
3 **A. No.**
4 Q. Did you ask to see any of that
5 documentation?
6 **A. No.**
7 Q. Why not?
8 **A. The nature of my visit was not to review**
9 **all of their records, but rather to have a sense of**
10 **the operations within the laboratory.**
11 Q. Including a sense of the proficiency
12 testing that they were involved in, correct?
13 **A. Review of the proficiency results would be**
14 **a full-day activity. That wasn't the purpose of my**
15 **visit.**
16 Q. And so your knowledge of the way in which
17 Psychemedics documents its internal proficiency
18 program is based entirely upon representations that
19 were made to you by representatives of Psychemedics;
20 is that right?
21 **A. That's correct.**
22 Q. So you don't have any independent knowledge
23 of how Psychemedics documents its internal
24 proficiency program; is that right?

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1 **A. That's right.**
2 Q. * After the site visit, did you have any
3 conversations with anyone regarding your
4 observations, what you saw, what you heard,
5 regarding the internal proficiency program at
6 Psychomedics?
7 **A. It's in my report.**
8 Q. Your report indicates that you had
9 conversations with people about that?
10 **A. Oh.**
11 Q. Just for the clarity of the record, let me
12 read the question back.
13 **MR. HEINING:** Could you read that back,
14 please.
15 (* Question read)
16 **A. Yes.**
17 Q. And with whom did you have such
18 conversations?
19 **A. With counsel. I don't believe I remember**
20 **whether it was Mary Jo or Michael or -- but...**
21 Q. But as you recall, you discussed with
22 someone --
23 **A. Yes.**
24 Q. -- from Morgan, Brown & Joy your

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1 observations regarding the internal proficiency
2 program?
3 **A. Yes.**
4 **MR. CLARKSON:** Wait for the whole question.
5 Q. And do you recall how many such
6 conversations you had?
7 **A. I think just one.**
8 Q. Do you recall when that happened?
9 **A. I think shortly after the site visit.**
10 Q. Was it an in-person conversation?
11 **A. No.**
12 Q. It was over the telephone?
13 **A. Correct.**
14 Q. And did you call someone from Morgan, Brown
15 & Joy to initiate that conversation?
16 **A. I don't recall whether I called them to**
17 **talk about my inspection or whether we had arranged**
18 **that we'd have a conference call to discuss the**
19 **findings of my visit.**
20 Q. So the discussion concerning the internal
21 proficiency program took place in the context of a
22 larger discussion about your visit; is that right?
23 **A. Exactly, yes.**
24 Q. And it might have been on a conference

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1 call; you don't recall?
2 **A. I suspect it was a conference call.**
3 Q. Do you recall whether anybody from
4 Psychomedics was involved in that conference call?
5 **A. I don't recall.**
6 Q. Tell me everything that you can remember
7 that was said about the internal proficiency program
8 during that call.
9 **A. I believe my findings were that**
10 **Psychomedics participates in proficiency programs,**
11 **all that are available, and to its credit has**
12 **instituted its own blind program. And I think that**
13 **was what I had to say about the proficiency part of**
14 **their program.**
15 Q. Did you tell counsel your view that,
16 ideally, a proficiency program would run between
17 5 and 10 percent proficiency samples through the
18 laboratory?
19 **A. No.**
20 Q. You never communicated that to counsel?
21 **A. I'm sure that we never discussed the**
22 **percent of specimens that one would run through a**
23 **proficiency program.**
24 Q. You never had any discussion of any kind

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1 about that?
2 **A. I don't recall getting into that level of**
3 **detail.**
4 Q. Tell me anything else, if there is more,
5 tell me anything else you can remember about your
6 discussion with counsel on that phone call
7 concerning the internal proficiency program at
8 Psychomedics.
9 **A. I can't recall addressing that internal**
10 **proficiency program or any of the proficiency**
11 **programs to any further detail. It was one part of**
12 **my visit.**
13 Q. What else was discussed on that phone call?
14 **A. The phone call was basically for me to**
15 **report what my findings were, in general -- "So you**
16 **visited the lab. What did you think?"**
17 Q. And what did you think?
18 **A. I thought the lab was doing a great job.**
19 **I've documented those comments in my report.**
20 Q. And did you say to counsel on that phone
21 call anything that isn't reflected in your reports?
22 **A. I don't recall, no.**
23 Q. What did counsel say to you during that
24 phone call regarding your findings, as you put it?

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1 retained.
2 Q. And not only were they provided to you, but
3 you did review them prior to the laboratory visit,
4 correct?
5 A. Yes.
6 Q. And during the laboratory visit, did you
7 make any evaluation of whether the SOPs were being
8 accurately applied in the laboratory setting?
9 A. Only in general assessment of the overall
10 operation.
11 Q. What does that mean?
12 A. That means, as I've indicated, my purpose
13 for the visit was not to perform an inspection to
14 make sure that every item in their SOP was being
15 religiously followed and documented. The purpose of
16 my visit was for me to have a sense of the overall
17 operations in the laboratory.
18 So I did not pull out their SOPs and stand
19 there and check the temperature of every water bath
20 and the time of every timer or any of that. So I
21 did not make an assessment of whether the details of
22 the SOPs were being diligently followed by the
23 laboratory.
24 Q. Now, you've testified that, as part of your

1 that's what I mean by a loose sense of inspection.
2 Q. Thank you for that clarification.
3 MR. HEINING: Let's take a very short
4 break. I need about five minutes. It looks like
5 it's two o'clock now. I'll try to be back by five
6 after or so.
7 MR. CLARKSON: Let's make it ten.
8 MR. HEINING: Ten is just fine.
9 (Recess)
10 BY MR. HEINING:
11 Q. Dr. Kadehjian, I want to ask you some
12 questions about your views on hair testing. Is it
13 your view that no one in the scientific community
14 has found hair analysis to be racially biased?
15 A. No.
16 Q. Is it your view that some in the scientific
17 community have found hair analysis to be racially
18 biased?
19 A. They make that claim, yes.
20 Q. And this view of yours, that there are
21 those in the research community who make a claim of
22 racial bias in hair testing, how long have you held
23 that view?
24 A. The view that there are some who have found

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1 work as a biomedical consultant going back many
2 years, you have repeatedly inspected laboratories;
3 isn't that correct?
4 A. Yes.
5 Q. And do you view your visit to the
6 Psychomedics laboratory as an inspection of the
7 Psychomedics laboratory?
8 A. Only in a loose sense of that term.
9 Q. And what is the loose sense of that term in
10 which this was an inspection?
11 A. When I perform an inspection, I come with
12 an 80-page checklist, with hundreds of items that I
13 diligently review, and then create a report
14 assessing all aspects of the lab's performance.
15 That is an inspection.
16 And this visit was never intended to be
17 that, but rather so that I could familiarize myself
18 with the actual operations that go on at
19 Psychomedics. So it's more of a cursory review of
20 where are the specimens received, how are they
21 handled, where do they go from here, what does
22 screening look like, what does confirmation look
23 like, what does your recordkeeping look like, that
24 sort of general overview of the lab operations. So

1 it to be biased, how long have I held that view?
2 Q. Yes.
3 A. Some of the early publications on hair
4 testing made that claim. So in reporting the
5 literature, I always acknowledge that there are
6 those who make that claim. And that was probably
7 from the mid-'90s, I would say, some of those first
8 papers came out.
9 Q. I'm sorry, did you say mid-'90s?
10 A. Probably mid-'90s.
11 Q. Is it your view that this alleged race bias
12 in the hair test is not the subject of controversy
13 in the scientific community?
14 A. No. That's not my view.
15 Q. Is it your view that this alleged race bias
16 in hair analysis is the subject of controversy in
17 the scientific community?
18 A. Yes.
19 Q. For how long have you held that view?
20 A. 15 years, back from the mid-'90s to today.
21 Q. And at no time since the mid-'90s have you
22 held the view that there is no controversy in the
23 scientific community with regard to race bias in
24 hair testing; is that correct?

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1 again.
2 **MR. HEINING:** Could you please read it
3 back.
4 (Question read)
5 **MR. CLARKSON:** Objection.
6 **A.** I'm not sure it's more accurate to phrase
7 it that way. Even if I have more information, it
8 still may not be sufficient to impugn the accuracy.
9 The presence of more information doesn't necessarily
10 mean that I can now impugn the test result. So it's
11 not necessarily more accurate.
12 Q. Okay. But the statement as it appears in
13 your report is that "Independent negative hair test
14 results do not impugn the accuracy of Psychomedics'
15 positive test results," which is difference from
16 saying that independent negative hair test results
17 may not impugn the accuracy of Psychomedics'
18 positive test results; isn't that correct?
19 **A.** Those are different statements, but I stand
20 by the one I made.
21 Q. And what entitles you to make that
22 statement, given that you've stated already that you
23 don't know what specific test results were
24 indicated?

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1 **MR. CLARKSON:** Objection.
2 **A.** As I've indicated, only under the most
3 bizarre circumstances -- and none of those
4 circumstances have been presented to me in this
5 case. I do know about some negative hair tests, and
6 those negative hair tests do not impugn the positive
7 results. And I provided the bases for that.
8 Q. Dr. Kadehjian, I want to return to some
9 testimony you were giving a few moments ago. I
10 believe you said that a laboratory report of
11 negative does not necessarily mean that there is no
12 drug in the specimen; is that correct?
13 **A.** That is correct.
14 Q. I want to ask a related question, which is
15 whether, in your view, a laboratory hair test result
16 that is positive -- this is different from the
17 question I asked earlier, focusing on a hair test
18 result now -- that is positive necessarily means
19 that drug is present in the hair sample.
20 **A.** And I did address that issue in part when I
21 said that there are ways that a laboratory can
22 report a positive result but that report is
23 incorrect: clerical errors, subterfuge, innocent
24 contamination within the laboratory.

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1 **Short of those things -- and maybe I could**
2 **think of one or two more -- a positive result, when**
3 **performed in an accurate and reliable manner,**
4 **demonstrates the presence of drugs in that specimen.**
5 Q. Thank you. And I do recall that testimony.
6 I just wanted to make sure that it applies equally
7 to hair tests. That's why I'm asking again.
8 **A.** Yes.
9 Q. Is it possible in your view, Dr. Kadehjian,
10 that one could take two samples from the same head
11 of hair, the same person's head of hair, run the
12 same analysis, the same hair analysis, follow the
13 same procedures on each sample, and get two
14 different results, one positive and one negative?
15 **A.** Yes.
16 Q. Dr. Kadehjian, I want to focus your
17 attention on the bottom of Page 7 of this report.
18 There's a sentence that begins on this page and
19 continues onto the next. I would ask you to just
20 take a moment and review that short paragraph and
21 let me know when you're ready to answer the question
22 about it.
23 **MR. CLARKSON:** The bottom of 7?
24 **MR. HEINING:** Yes, the paragraph that

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1 begins on 7 and goes over onto 8.
2 **A. (Reviewing document) Yes, I've read that.**
3 Q. Thank you. So my question is in particular
4 about the sentence that begins, "But laboratory
5 reproducibility assessments at Psychomedics," and
6 then continues, "with both internal QC assessments
7 as well as with proficiency test specimens, have
8 demonstrated excellent reproducibility with low
9 coefficients of variation."
10 My question first off is, what is the basis
11 for that statement?
12 **A.** As part of the National Lab Certification
13 Program pilot on hair testing, labs were provided
14 specimens that they were supposed to test in
15 duplicate or in triplicate, and the laboratories'
16 reproducibility was assessed in that way.
17 **Also, the laboratory produces its own**
18 **internal reproducibility results. So we have data**
19 **that demonstrates what the reproducibility is, what**
20 **the coefficient of variation is when specimens are**
21 **tested repeatedly.**
22 Q. And then going on to the following
23 sentence, "Accordingly, such analytical variability
24 would be expected to have only a small impact on